Partial listing

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Barnett

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(54) **SHOE SIZE SCANNER SYSTEM**

(76) Inventor: **Sharon B. Barnett**, 703 Cornwall St., Silver Spring, MD (US) 20901

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(52) U.S. Cl. **705/28**
(58) Field of Search 705/22, 28

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Primary Examiner—Robert P. Olszewski
Assistant Examiner—Bryan Jaketic
(74) *Attorney, Agent, or Firm*—Richard C. Litman

(57)   **ABSTRACT**

The shoe size scanner system is an automated system for use in retail stores, and particularly in shoe stores. The scanner system has a base unit which interfaces with the store's computerized inventory system, and a plurality of remote units which interface with the base unit. The remote units include at least the input device of a bar code scanner, and may be either fixed mount or portable, handheld scanning units. The fixed mount units are positioned in fixed locations, such as display shelves or tables and may be used by either store clerks or customers. The handheld units are intended for use by sales clerks, and may be supported by a neck strap, arm band, or belt clip. According to the shoe size scanner system, each shoe on display in the store has a bar code affixed thereto which encodes an identifier number corresponding to the model of the shoe. Either a sales clerk or a customer may scan the bar code with the remote unit, which communicates with the base unit and returns identification of the shoe model. The sales clerk or customer may then select one of three function keys so that the remote unit will display, for that particular model, either (1) a list of all shoe sizes in stock; (2) a response indicating whether the shoe is in stock in a specified length and width; or (3) a list of all shoe widths in stock in a specified length. Price information for each shoe listed in the response is provided.

18 Claims, 12 Drawing Sheets
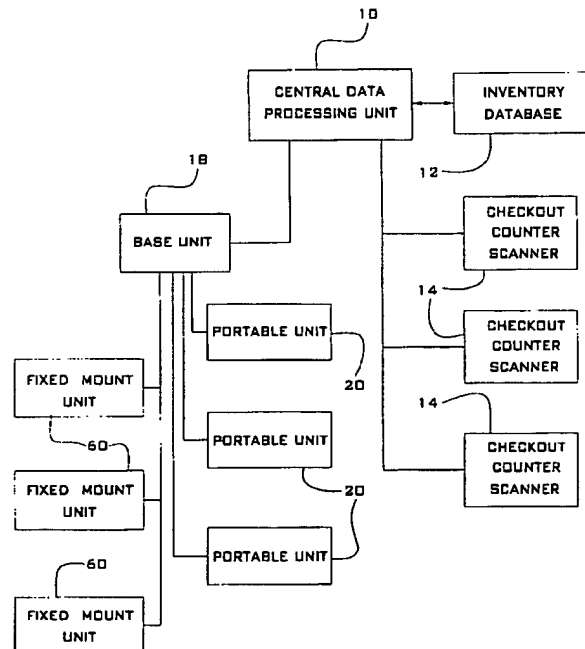
DOCUMENT-IDENTIFIER: US 6343276 B1
TITLE: Shoe size scanner system

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DEPR:
The inventory database 12 will typically contain one or more tables which
relate a **unique product identification** number to such data as a literal string
describing the model, the shoe size, the shoe width, the number of units
received, the number of units sold, and the number of units in stock (the
latter may be calculated from the number of units received and the number of
units sold) and unit price. The exact structure of the database 12, including
the number of tables and their organization, interfaced with the shoe size
scanner system may vary, provided that the database 12 is capable of
generating
a table in response to a query providing certain parameters identifying the
requested information. The query may be presented by conventional
programming
techniques, such as Structured Query Language (SQL). Depending upon the
particular query, as described infra, the parameters presented may include,
e.g., product identification number, shoe length, shoe size, etc. Such
inventory databases are well known in the art and will not be described
further. An example of such an inventory system is described in U.S. Pat.
No. 5,878,401, the disclosure of which is incorporated herein.

DEPR:
The product identification number should be a **unique number identifying** the
shoe on display, at least by manufacturer and model or style. According to the
shoe size scanner system of the present invention, a bar code containing a
symbolic representation of the product identification number is affixed to each
shoe on display, as represented in FIG. 2 by a bar code label 16 adhesively
attached to the sole of a shoe A. The bar code may be affixed to the shoe by
the manufacturer, a wholesaler, or the retail store. The product
identification number may be a Universal Price Code (UPC), a stock keeping unit
(SKU), or a customized identification number used in the retail store's
computerized inventory system. A conventional Version "A" UPC bar code
symbol,
e.g., is a twelve digit code in which the first six digits represent the
manufacturer of the item, the next five digits represent the unique product,
and the last digit is a check character. A UPC Version "E" bar code presents
substantially the same number in fewer digits by suppressing redundant zeroes.

A customized identification number may be used by the retailer to further uniquely identify the product, which may be printed on a bar code label and applied to the shoe on display by the retailer.

DEPR:
The decoder 92 receives scanned data from the fixed mount units by hardwire. The base unit 18 includes a transmitter/receiver, or transceiver, 102 for communication to and from the portable units 20. The transceiver units 52 and 102 may provide low power digital transmission on narrow band frequencies in the 900 MHz range, or using spread spectrum techniques in the 2.4 GHz or 5.7 GHz band. Bar code scanner input devices and decoders equipped with such transmitter/receivers are conventionally available. Each transmission to or from a particular portable unit 20 or a particular fixed mount unit 60 may be preceded by a **unique device identifier** code so that the units 20, 60 and 18 may
be programmed to ignore extraneous or interfere transmitters on the same frequency, so that the base unit 18 may address responses particularly to the requesting unit, and so that the remote units 20 and 60 need only display responses directed to their particular enquiry.

DEPR:
On power being applied to the unit, the main routine enters an input loop and checks for various forms of input. If bar code label 16 is scanned, the main routine detects scanner input 110. After processing by the waveshaper circuitry 38 or 72, a copy of the scanner input is stored in the input data buffer 44 or 80. The waveshaper data is assembled in the transfer buffer 50 or 86 into a packet preceded by a **unique identifier** number which identifies the remote unit, and the packet is automatically transmitted to the base unit 18, either by the RF transmitter/receiver 52 in the case of the portable unit 20, or by hardwire in the case of the fixed mount unit 60. The program then returns to the input mode. If retransmission of the data is requested by the base unit. 18, the data may be reassembled from the input data buffer 44 or 80.